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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,710	06/10/2005	Christel Thea Jorgensen	10334.204-US	6943

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NOVOZYMES NORTH AMERICA, INC.
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NEW YORK, NY 10110

EXAMINER

BADR, HAMID R

ART UNIT	PAPER NUMBER
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1781

NOTIFICATION DATE	DELIVERY MODE
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02/04/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents-US-NY@novozymes.com

Office Action Summary	Application No. 10/538,710	Applicant(s) JORGENSEN ET AL.	
	Examiner HAMID R. BADR	Art Unit 1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE, 11/8/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,8,10 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,8,10 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/08/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/08/2010 has been entered.

2. Claims 6, 8, 10 and 13 are being considered on the merits.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 8, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roggen (US 2003/0144165; hereinafter R1) in view of Pomeranz et al. (1973, The lipid composition of wheat flours; hereinafter R2) and Ghannoum (2000. Potential role of phospholipases; hereinafter R3)

5. R1 discloses variant lipolytic enzymes prepared from a parent polypeptide which have altered property e.g. increased thermostability, altered pH optimum or altered substrate specificity. R1 then tests the lipolytic enzyme activity of the prepared variant enzyme, selects a variant lipolytic enzyme with an altered property compared with the parent enzyme. and adds the variant enzyme of interest to a bread dough in a process

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for preparing a dough or baked product prepared from the dough. The variant lipolytic enzyme of interest preferably has phospholipase and/or digalactosyl diglyceride activity. Addition of a phospholipid to the dough is also claimed. (claims 10, 14, 16, 17).

6. While R1 does not expressly disclose selecting a lipolytic enzyme with high specific activity toward N-acyl-phosphatidyl ethanolamine, or N-acyl-lysophosphatidyl ethanolamine, compared with its activity toward phosphatidyl choline, testing any lipolytic enzyme for a specific activity (e.g. phospholipases) and selecting the enzyme based on the test results and finally adding the enzyme to the dough would have been obvious in light of the teachings of R1.

7. R2 discloses that among the polar lipids of wheat flour digalactosyl diglyceride was the major component (about 40%). R2 discloses other phospholipids as phosphatidyl ethanolamine, phosphatidyl choline, and phosphatidyl serine. (Abstract).

8. It would be obvious to select an enzyme which preferentially hydrolyzes any of these polar lipids over the other one.

9. It is also noted that since phosphatidyl ethanolamine and lysophosphatidyl ethanol amine are both substrates for the selected enzyme, the enzyme is a phospholipase B. However, neither R1 nor R2 discloses a method for detecting activity towards phosphatidyl ethanolamine or phosphatidyl choline.

10. R3 discloses a plate method for assaying phospholipases which can affect phosphatidyl ethanolamine or phosphatidyl choline or both. (page 126, col. 2, first paragraph; lines 9-14). Since R3 discloses that the diameter of the zone around the

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phospholipase will be proportional to the activity of the enzyme, relative activities toward phosphatidyl ethanolamine and phosphatidyl choline would be determined.

11. In summary, R1 discloses testing lipolytic enzymes for a specific activity, selecting lipolytic activities toward phospholipases, specifically the phospholipases which specifically hydrolyze digalactosyl diglycerides, and adding such enzymes to a dough for making bread. R2 discloses the polar lipids of wheat flour, so that any of the phospholipids would be obviously selected for hydrolysis. R3 discloses how to assay for phospholipase B by the plate method. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to test either natural lipolytic enzymes or variants thereof for a specific activity, select the lipolytic enzyme of interest, and add it to the dough for bread baking. One would do so to assure that the screened and selected enzyme would function normally in the dough without being affected by any inhibitors which may be naturally present in wheat flour or be introduced into the dough through dough and bread additives. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in screening an enzyme of interest, selecting it adding it to the dough to examine its performance in the dough.

Response to Arguments

Applicants' arguments have been considered. In light of the new ground(s) of rejection; those arguments are moot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1781

/Keith D. Hendricks/
Supervisory Patent Examiner, Art Unit 1781